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10/702,170

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Hitoshi Inoue

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EXAMINER

KAU, STEVEN Y

ART UNIT

PAPER NUMBER

2625

MAIL DATE

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/702,170

Applicant(s)

INOUE, HITOSHI

Examiner

Steven Kau

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 04 November 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 November 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 4/12/2004, 7/20/2005
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Information Disclosure Statement***

1. The information disclosure statements (IDS) submitted on April 12, 2004 and July 20, 2005 are in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

### ***Priority***

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Should applicant desire to obtain the benefit of foreign priority under 35 U.S.C. 119(a)-(d) prior to declaration of an interference, a translation of the foreign application should be submitted under 37 CFR 1.55 in reply to this action.

### ***Drawings***

3. The drawings are objected to under 37 CFR 1.83(a) because they fail to show as described in the specification. The disclosed specification describes "image generating unit", "tonal gradation conversion unit", "selecting unit", and "calculating unit", but not shown in the disclosed drawings.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet,

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and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency.

Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the application will be notified and informed of any corrective action in the next Office action. The objection to the drawing will not be held in abeyance.

### ***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 1-6 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

With regard to claim 1, is recited "...repeating the varying and automatic varying steps until all test pattern images meet a predefined criteria; and generating a LUT (look-up table) associated with the plurality of test pattern images based on determined

variation in gradients " (emphasis added). The underlined words are not defined in the disclosed specification.

Claims 2 and 3 are rejected under 35 U.S.C. 112, first paragraph for the same reasons discussed as for the claim 1 rejection.

Claims 4-6 are rejected under 35 U.S.C. 112, first paragraph because they are dependent claims to Claim 1.

### ***Claim Rejections - 35 USC § 101***

6. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

7. Claim 15 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter as follows:

Claim 15 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claim 15 is drawn to "a computer readable program", which can be characterized as either "functional descriptive material" or "nonfunctional descriptive material". Since the computer program comprising steps of inputting a position in the image displayed on the display unit, a modification step for modifying the contrast of the displayed image, and a setting step for setting tonal gradation conversion characteristics on the image displayed on the display unit.

Therefore, it is being considered as "nonfunctional descriptive material" because "a computer program" per se in the claims can merely be an abstract idea.

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Also, considering the claim as "functional descriptive material" imparts with functionality, but not being employed as a computer component (or other physical structures), is considered not statutory. "In contrast, a claimed computer-readable medium encoded with a computer program... is thus statutory." (See *"Interim Guideline for Examination of Patent Application for Patent Subject Matter Eligibility"*, ANNEX IV, Page 53, First Paragraph;).

Therefore, both types of "descriptive material" are nonstatutory when claimed as descriptive material per se (See *"Interim Guideline for Examination of Patent Application for Patent Subject Matter Eligibility"*, ANNEX IV, Page 50, Second Paragraph;). As well as the claimed program is not necessarily a computer program, and is not encoded or embodied on a computer readable medium, there is no structural and functional interrelationships, thus, the claim is considered non-statutory.

### ***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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9. Claims 7-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakane et al (Nakane) (US 5,461,462) in view of Yip (US 5,369,499) and further in view of Takamatsu et al (Takamatsu) (US 6,044,204).

With regard to claim 7, Nakane discloses a method for adjusting a control standard value for quality display, in that he teaches an apparatus for processing an image, comprising: an image generating unit for providing a plurality of types of pattern images (col 9, lines 24-29); a tonal gradation conversion unit for using a lookup table to convert one or more of the plurality of pattern images into an output signal (col 14, lines 65-67 & col 15, lines 1-25); a display unit for converting the output signal from the tonal gradation conversion unit into a luminance value to be displayed thereon; an input unit for inputting information relating to a pixel value of a background area of the pattern image and/or an amount of change in contrast of the pattern image (col 10, lines 29-32); a control unit for controlling display of the pattern image through the tonal gradation transportation unit, or for controlling display of the pattern image with the lookup table modified {e.g. CPU- a control unit} (col 14, lines 4-14); a selecting unit for selecting the pattern image presented on the display unit by inputting a confirmation signal (figure 11, col 17, lines 19-24).

Nakane differs from claim 7, in that he does not teach a calculating unit for calculating the lookup table from the pixel value of the background of the selected pattern image and the contrast of the selected pattern image.

Yip discloses a calibration method for video image reproduction, in that he teaches a calculating unit for calculating {e.g. construct a lookup table from the

measured and desired tone curves} the lookup table from the pixel value of the background of the selected pattern image and the contrast of the selected pattern image (col 3, lines 41-44).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have modified Nakane to include a calculating unit for calculating the lookup table from the pixel value of the background of the selected pattern image and the contrast of the selected pattern image taught by Yip to provide a consistent reproduction characteristics and equal visualization of an image (col 1, lines 8-14).

With regard to claim 8, in accordance with claim 7, Nakane teaches that the input unit inputs coordinates on the pattern image and the amount of change in the contrast (col 7, lines 55-65), and wherein the control unit performs control for calculating the pixel value of the background area of the pattern image based on the coordinates on the input pattern image {e.g. quantity of toner adhesion to gradation data when density of the background voltage is increased} (Figure 9, col 11, lines 6-10), for invoking the pattern image from the image generating unit based on the pixel value of the background area and the amount of change in the contrast {e.g. under this condition, a plurality of density patterns is image-formed} (col 11, lines 24-38), and for displaying the pattern image on the display unit, or performs control for invoking the pattern image from the image generating unit base on the input information of the input unit and for presenting the pattern image with the lookup table modified {e.g. directly selected from the lookup table} (col 14, lines 65-67 & col 15, lines 1-15).



With regard to claim 9, in accordance with claim 7, Nakane teaches that the control unit performs control for invoking a plurality of pattern images from the image generating unit based on the input information of the input unit and for displaying the pattern images on the display unit through the tonal gradation conversion unit, or performs control for invoking a plurality of pattern images from the image generating unit based on the input information of the input unit and for presenting the pattern images with the lookup table modified {e.g. a pattern generator generates gradation data of the test patterns each having different density} (col 9, lines 24-29).

With regard to claim 10, in accordance with claim 9, Nakane teaches that the pattern image comprises a background area and a contrast area, arranged on the background area having a pixel value different from the pixel value of the background area {e.g. the measured value and the reference value set in advance are compared with each other} (col 11, lines 24-38).

With regard to claim 11, in accordance with claim 9, Nakane teaches that the pattern image is a natural image {e.g. a predetermined pattern} (col 2, lines 9-44).

With regard to claim 12, in accordance with claim 10, Nakane teaches that the pattern image comprises a plurality of contrast areas which are different from each other in at least one of pixel value, size, and spatial frequency {e.g. the memory section 61, there are stored a table of an amount of the change of a contrast voltage and a table of the change of a background voltage and a table of image data (density data) for every gradation corresponding to the test pattern, which is used for initializing and controlling the gradation reproduction} (col 7, lines 55-65).

With regard to claim 13, in accordance with 12, Nakane differs from claim 12, in that he does not teach the control unit calculates a mean pixel value of a region containing the coordinates of the pattern image as a pixel value of the background area.

Takamatsu discloses an image forming apparatus, in that he teaches that the control unit calculates a mean pixel value of a region containing the coordinates of the pattern image as a pixel value of the background area (col 35, lines 8-24).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have modified Nakane to include the control unit calculates a mean pixel value of a region containing the coordinates of the pattern image as a pixel value of the background area taught by Takamatsu to overcome the problems of drum/toner different behavior and a so-called "void" problem (col 1, lines 34-44).

10. Claims 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tastl et al (Tastl) (US 6,993,200) in view of Takamatsu et al (Takamatsu) (US 6,044,204).

With regard to claim 14, Tastl discloses a method for rendering dynamic range image, in that he teaches a method of setting tonal gradation conversion characteristics applied to an image in an image processing apparatus that processes the image displayed on a display unit the method comprising: an input step for selecting the image or a portion thereof, wherein the selected image or portion has a position and contrast associated with said position {e.g. perceived contrast image, for each pixel location, rendering manager may then compute a display contrast threshold} (Figure 5, col 9,

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lines 24-48); a modification step for modifying the contrast of the displayed image {e.g. Spatial frequency may be defined as the frequency of contrast changes in an image within a given physical distance } (col 6, lines 47-67).

Tastl differs from claim 14, in that he does not teach that a setting step for setting tonal gradation conversion characteristics on the image displayed on the display unit.

Takamatsu discloses an image display system, in that he teaches a setting step for setting tonal gradation conversion characteristics on the image displayed on the display unit (Figure 4, col 10, lines 1-15).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have modified Tastl to include a setting step for setting tonal gradation conversion characteristics on the image displayed on the display unit taught by Takamatsu to reduce generation of a false color (col 2, lines 10-12).

With regard to claim 15, Tastl teaches a computer program {e.g. apply the current algorithms in the field of computer graphic} (col 10, lines 35-45), and the structure elements of method claim 14 perform all steps of computer program claim 15. Thus claim 15 is rejected under 102(e) for the same reason discussed in the rejection of claim 14.

### **Correspondence Information**

11. Claims 1-6 may be allowable if these claims are NOT rejected under 35 U.S.C. 112, first paragraph.


Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement is traversed (37 CFR 1.143).

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

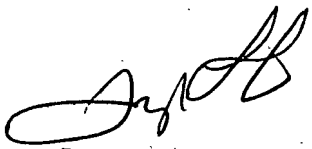
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven Kau whose telephone number is (571) 270-1120. The examiner can normally be reached on Monday to Friday, from 8:30 AM – 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Twyler Lamb can be reached on (571) 272-7406. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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May 18, 2007



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